

REMARKS

This application has been reviewed in light of the Office Action dated January 26, 2005. Claims 56-73 are presented for examination, of which Claims 56, 58, 65, and 67 are in independent form. Claims 56, 58, 65 and 67 have been amended to define more still clearly what Applicant regards as his invention. Reconsideration of the application, as amended is requested.

Claims 56-60, 65-69 stand rejected 35 U.S.C. § 102(b) as being allegedly anticipated by WO 97-364532 (Hodgkinson). These rejections are being respectfully traversed as if applied to amended Claims 56-60, and 65-69. The Examiner contends that Hodgkinson teaches “defining a path to be followed on the network by the data packet, independent from the transmission mode of the data packet, connected or non-connected,” as call for in Claim 56, citing page 5, lines 20-23 of Hodgkinson. The cited portion of Hodgkinson states that “[m]ainly, but not entirely, virtual path routing tables are set up by network management and virtual channel routing tables are set up by signaling during call set up.” This statement, when read in the context of the Hodgkinson disclosure, does not teach or suggest the “defining a path...” limitation of Claim 56 and of Claim 65, which is the apparatus claim counterpart to method Claim 56.

Figure 1 of Hodgkinson shows a diagram of a conventional asynchronous transmission mode “ATM” network. As described in the first full paragraph of page 5 of Hodgkinson, ATM cells are routed in the network of Fig. 1 by relying solely on the use of virtual paths and virtual channels, which limits the operation of the conventional ATM network of Fig. 1 to only the connect mode of transmission.

Hodgkinson also shows in Fig. 5 thereof a different network in which routing of ATM cells can take place in a non-connected mode. However, as explained on page 8, lines 23-27 of Hodgkinson, when the network of Fig.5 is used to route ATM cells in a non-connected

mode of transmission in the network of Fig. 5, the fields in the header of the ATM cells are different from the fields of the header of ATM cells routed in a connected transmission mode in the conventional ATM network of Fig. 1. The differences may be seen by comparing the header fields of ATM cells in the conventional network of Fig. 1 in a connected mode, as shown in Table 1 of Hodgkinson with the fields of the header of ATM cells routed in the ATM network of Fig. 5 in non-connected mode, as shown in Table 2 of Hodgkinson. Where the header fields of Table 1 include the virtual path identifier (VPI) and the virtual channel identifier (VCI), the VPI and VCI fields are not included in Table 2, and the header fields of Table 2 include the source address (SA) and destination address (DA), the SA and DA fields are not included in the Table 1. Accordingly, Hodgkinson teaches that the determination of the VPI, VCI, SA, and DA header fields cannot be determined independently of the transmission mode of the data packet, as called for in amendment Claims 56 and 65.

The Examiner also contends that Hodgkinson discloses the limitation in Claim 56 and apparatus counterpart Claim 65 of “selecting a virtual channel representing a connection between the source node the destination node,” citing page 10, lines 5-15 of the reference. The portion of Hodgkinson cited by the Examiner against the limitation of “selecting a virtual channel...,” reads as follows:

The invention is not restricted to ATM networks using the conventional cell header and payload structure and sizes shown in initial Figs. 3 and 4. Where, as in the present example, these conventional cell header and payload structures are used, 28 bits in total are allocated to the SA, DA, and OF fields. The reason for this is that this is a number of bits used by conventional GFC, VPI, and VCI fields. The bits then allocated to SA, DA and OF fields can be arbitrarily chosen, but they must be specific within a specific domain. In the present example, the SA and DA fields are each 12 bites long and the OF fields is 4 bits long. Consequently, the network domain shown in Fig. 5 can support 4096 source addresses, 4096 destination addresses and 16 options.

Applicants are unable to find in the above-quoted portion of the Hodgkinson cited by the Examiner, any teaching or suggestion of “selecting a virtual channel representing a connection between the source node and destination node...”

The Examiner also contends that Hodgkinson discloses the limitation in Claims 56 its counterpart apparatus Claim 65 of “sending the data packet with additional data, said additional data comprising the routing header, the selected virtual channel and identifier of the source node,” and cites Hodgkinson at page 10, lines 10-25 as teaching “sending the data packet with VPI/VCI, PT, OF, SA, DA (additional data), the additional data comprising the define path, the selected virtual channel and an identifier of the source node.” The cited portion of Hodgkinson states:

... this is the number of bits used the conventional GFC, VPI and VCI fields. The bits then allocated to the SA, DA and OF fields can be arbitrarily chosen, but they must be specific within a specific domain.

In the present example, the SA and DA fields are each 12 bits long and the OF field is 4 bits long. Consequently, the network domain shown in Fig. 5 can support 4096 source addresses, 4096 destination addresses and 16 options. Source destination addresses outside the network may additionally be specified in the payload section of the first cell of each transmission.

The payload type (PT) field is identical to this field used in the header of a conventional ATM cell except that a predefined value, which in the present example is “111”, is used indicate that the service connectionless.

The CLP and HEC fields are identical to those fields in the header of a conventional ATM cell.

“When a user of the network shown in Fig. 5 wishes to transmit ATM cells over the network using a connectionless service, it indicates to one of access switches, for example, switch 117, that a connectionless service is required ...”

Hodgkinson does not teach or suggest sending the data packet with VPI/VCI, PT, OF, SA, and DA, but does teach the exact contrary. As explained above in connection with ATM cell routing in a connected transmission mode in the network of Fig. 1 of Hodgkinson and with routing ATM cell in a non-connected transmission mode in the network of Fig. 5 of

Hodgkinson, the header fields used for the connected mode of transmission include the VPI and VCI fields, but not the SA and DA fields, as shown in Table 1 of Hodgkinson, but the header for the non-connected transmission mode of ATM cells include SA and DA fields, but not the VPI and VCI fields, as shown in fig. 2. According to the teaching of Hodgkinson, the VPI/VCI and the SA/DA fields are never transmitted together in the same packet header. Accordingly, Hodgkinson does not teach or suggest the limitation in amended Claims 56 and 65 of “sending the data packet with additional data, said additional data comprising the routing header, the selected virtual channel and the identifier of the source node.”

The Examiner also contends that Hodgkinson teaches the limitations of amended Claims of 56 and 65 of “wherein the combination of the virtual channel and source node identifier makes the connection unique in the switching network,” and cites page 10, lines 5-15 of Hodgkinson, which is quotes above in support of the contention. Because Hodgkinson teaches that the VPI/VCI and the SA fields cannot be all be present in the same header of an ATM cell. According to Hodgkinson, a unique connection in the switching network can never be defined by the presence of the VPI/VCI and SA/DA fields in the same ATM cell header. Moreover, having all the VPI/VCI and SA fields present of an ATM cell would cause the ATM network to be inoperable because an ATM network uses a centralized management where all the virtual channels, which are to be used to route data over the network, are uniquely defined by number ***once and for all. Therefore, Hodgkinson fails to teach or suggest the limitation in amended Claim 56 and 65 of “wherein the combination of the virtual channel and source node identifier makes the connection unique in the switching network.”

The Examiner further contends that Hodgkinson discloses the limitation in Claims 56 and 65 of “wherein data representing at least one of the virtual channel and the source node

identifier allows the destination node to determined the transmission mode of the data packet, connected or non-connected,” and cites Fig. 7 of Hodgkinson in support of the contention. There is nothing in Fig. 7 and the portion of the Hodgkinson text describing that figure which discloses or suggests that the flow diagram shown in the figure uses data representing at least one of the virtual channel an source node identifier to allow the destination node to determine the transmission mode of the data packet, connector or non-connected. The flow diagram of Fig. 7 shows the operation that are carried out in an ATM switching mode from the time that an ATM cell is received to the time when the ATM cell leaves switch on the selected output port. The only field of the ATM cell which is used to determine the transmission mode required for routing the ATM cell is the PT field in the test diamond 221. This is completely differently from reading a virtual channel or source node identified, which had never changed, in order to determine whether the transmission mode is connected or non-connected. Accordingly, Hodgkinson does not teach or disclose the additional limitation of Claims 56 and 65 of “wherein data representing at least one of”

For all for the foregoing reason, Claims 56 and 65 are patentable over Hodgkinson.

Claim 57 depends from amended Claim 56, and is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of amended Claim 56 over the same reference. It addition, Hodgkinson does not disclose or suggest the additional limitation in Claims 57 and 66 of “wherein the data packet includes route information representing each node on the define path in a network through which the user date must pass in order to teach destination node,” contrary to the Examiner’s assertion. The Examiner alleges that Hodgkinson disclose that the data packet includes routing information representing each node on

the all VIP/VCI with the port ID (defined path) in a network to which the user must pass in order to reach the destination node,” and citing page 3, lines 10-15 of that reference. As explained above, Hodgkinson teaches that the presence of VPI/VCI fields together with SA/DA fields in the same header of an ATM cell cannot define a unique path for the cell from the source node to the destination node, and input port address identifier is a source node address identifier and output port identifier would be a destination node address identifier ATM network.

Claim 66 depends from amended Claim 65, which is the counterpart apparatus claim of method Claim 57, and is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of amended Claim 65 over that reference. Furthermore, the additional limitation of Claim 66 is identical to additional limitation of Claim 57 and is not disclosed or suggested by Hodgkinson for the same reasons as set forth herein for patentably distinguishing the additional limitation of Claim 57 over that reference.

The Examiner also contends that Hodgkinson teaches the limitation in amended Claims 58 and 67 of “wherein additional data comprising a virtual channel, a source node identifier and a routing header, said routing header defining a path for the data packet on the network and being determined independently of the transmission mode of the data packet, connected or non-connected.” Hodgkinson does not disclose or suggest this limitation for the same reasons as set forth herein as to why Hodgkinson does not determine the routing header, the selected virtual channel and the identifier of the source node independently of the transmission mode of the ATM cell connected or non-connected.

The Examiner also contends that Hodgkinson teaches the limitation in amended Claims 58 and amended Claim 67 of “reading the additional data,” and asserts that Hodgkinson

teaches the reading VPI and/or VCI fields, citing the paragraph on page 11, lines 5-10 of that reference.

As discussed above, Hodgkinson does not teach the use of additional data corresponding a virtual channel, source identifier and a routing header. As has been explained previously, there is no routing header disclosed by Hodgkinson and the VIP/VCI fields are never present with the source address (SA) field in the same header of and ATM cell. Therefore Hodgkinson does not teach or suggest “reading the additional field,” as recited in amended Claims 58 and 67.

The Examiner further contends that Hodgkinson teaches the limitation in amended Claims 58 and 67 of “determining the transmission mode of the data packet, connected or non-connected on the basis of the data representing at least one or the virtual channel and the source node identifier,” and cites Fig. 7 is support of the contention. However, Applicant fails to see how Fig. 7 of Hodgkinson, which shows a flow diagram illustrating the operations that are performed by a switch node in ATM network from the time when an ATM cell enters the switch to the time when leaves the switch on a selected output port can teach determining the transmission mode of the data packet, connected or non-connected, on the basis of data representing at least one of the virtual channel and the source node identifier, especially when Hodgkinson teaches away from having the virtual channel identifier and the source node identifier in the same header of an atm cell. The only way of determining whether the transmission mode is a connected or non-connected mode taught by Hodgkinson is described on page 10, lines 18-20, which calls for checking the payload type (PT) field to determine whether is set at “111” to indicate that a non-connected transmission mode is required. This is entirely different from the determining the transmission mode of the data packet on the basis of data

representing at least one of the virtual channel and the source node identifier is called for in amended Claims 58 and 67.

Because Hodgkinson does not teach or suggest any of the limitations of amended Claims 58 and 67, those claims are not anticipated by Hodgkinson.

Claim 59 depends from amended Claim 58, and is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of Claim 58 over the same reference likewise, Claim 68, which is the apparatus counterpart of method Claim 59 depends from Claim 67, as is, therefore patentable over Hodgkinson for the same reasons as set forth herein for the patentability of amended Claim 67 over that reference. In addition, both Claims 59 and 68 have the additional limitation of “the destination node has memory in which additional reference data are stored and said determining step includes comparing the additional reference data and the additional data wherein said reading step,” contrary to the Examiner’s assertion that Hodgkinson discloses that the destination node has memory in which additional reference data are stored said determining step includes comparing additional reference data and the additional data read in reading step, page 11, lines 15-17 (SIC).” Nowhere in the cited portion of Hodgkinson is there is any mention of suggestion that a destination switching node of ATM network includes memory for the purpose of storing reference additional data, such as the header data of ATM cell as identified in Table 1 and Table 2 of Hodgkinson. Nor does Fig. 7 of Hodgkinson which shows a flow diagram of the operations that are performed on ATM cell from the time it enters ATM destination switch node to the time when ATM cell leaves the destination ATM switch node on a selected output port. The only comparison is shown in the flow diagram of Fig. 7 is that the comparison of the PT field with a sort value of “111” in the decision diamond 221 for testing whether the ATM cell received by the destination switch node requires a non-

connected mode of transmission. Accordingly, Hodgkinson does not disclose or suggest the additional limitation of Claims 59 and 68.

Claims 61-64, 70-73 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 5,864,738 (Kessler et al). These rejections are being respectfully traverse or avoided by amendment.

The Examiner contends that with respect to Claims 61, 62, 70, and 71, “Hodgkinson discloses that during said determining step, it is determined that the transmission mode is non-contacted, said reception message further comprises the steps reading, in a packet.” However, the Examiner acknowledges that Hodgkinson does not disclose reading the size of a message to be received from the source node, and reserving sufficient memory to store the entire message according to the read size of the message,” but asserts that “Kessler discloses that determining packet length for the reservation of memory in the buffer to store the packet,” citing col. 15, line 15-20 and 65-67. The Examiner then alleges that “it would have been obvious to one of ordinary skill in the art to have the feature reading the packet size and reserving memory for the received packet so that the data could be stored probably for processing by the switch.

Applicant notes that Claim 61 depends from amended Claim 58, as is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of amended Claim 58 over that reference. Likewise, Claim 70 depends from amended Claim 67, and is, therefore patentable over Hodgkinson for the same reasons as set forth herein for the patentability of amended Claim 67. Both Claim 61 and Claim 70 includes the additional limitation of reading, when the transmission mode is non-connected, in a first packet, the size of the message to be received from the source node, the first packet being one from amongst several

packet constituting the message the Examiner has acknowledged that Hodgkinson does not teach or suggest the additional limitation of Claims 61 and 70.

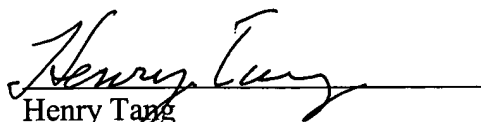
Claim 62 depends indirectly from amended Claim 58, and is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of amended Claim 58 over that same reference. Likewise, Claim 71 depends indirectly from amended Claim 67, and is, therefore, patentable for the same reasons as set forth herein for the patentability of amended Claim 57 over that reference. Moreover, both Claims 62 and 71 each have the additional limitation of “reserving sufficient memory to store the entire message according to the read size of the message.” As acknowledged by the Examiner, Hodgkinson does not teach or suggest the additional limitation of Claims 62 and 71. Since Kessler has not been asserted as anticipating Claims 62 and 71, Claims 62 and 71 are both patentable over Hodgkinson and Kessler whether considered singly or in combination.

Claim 63 depends from Claim 62, and is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of Claim 62 over the same reference. Likewise, Claim 72, which is the apparatus claim counterpart of Claim 63, depends from Claim 71, as is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of Claim 71 over the same reference. In addition, Claims 62 and 72 each have the additional limitation of “erasing the additional data after said reserving step has been performed.” The Examiner has acknowledged that Hodgkinson does not disclose the additional limitation in Claims 63 and 72. Since Kessler has been cited solely for allegedly teaching the additional limitation of Claims 63 and 72, and is not asserted as anticipating Claims 63 and 72, are, therefore, each patentable over Hodgkinson and Kessler whether considered singly or in combination.

Claim 64 depends amended Claim 58, and is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of amended Claim 58 over that reference. Likewise, Claim 73 depends amended Claim 67, as is, therefore, patentable over Hodgkinson for the same reasons as set forth herein for the patentability of amended Claim 67 over that reference. Furthermore, Claims 64 and 73 each has the limitation of “sending an acknowledgment package to the source node, the acknowledgment packet including the virtual channel used for acknowledging receipt.” The Examiner has acknowledged that Hodgkinson does not disclose the additional limitation in Claims 64 and 73, and Kessler has not been asserted as anticipating either Claims 64 or 73, Claims 64 and 73 are each patentable over Hodgkinson and Kessler whether considered singly or in combination. In view of the foregoing amendment and remarks, Applicant respectfully request withdrawal of the rejections of Claims 56-60, and 65-69 as being allegedly anticipated by Hodgkinson, and withdrawal the rejections of Claims 61-64 and 70-73 as being allegedly unpatentable over of Hodgkinson in view of Kessler. Applicant respectfully urges allowance of Claims 56-73, as amended, and the passage of the present application to issue.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Henry Tang", is written over a horizontal line.

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